DISCOVERY CARLSON

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World-class
Carlson faculty uphold
our rich tradition of
research excellence.

The story of our school goes back a century, when just a handful of students enrolled in what was then simply known as the University of Minnesota Business School. The dreams the founders had for it were big, but few could have predicted its impact.

For 100 years, our faculty have shaped the business world: Dale Yoder studied and developed tools for the emerging human resources field; Walter Heller provided economic advice to Presidents Kennedy and Johnson; Gordon Davis was a pioneer of the Management Information Systems field; and E. Jerome McCarthy literally wrote the book on marketing.

The Carlson School faculty of today continue this legacy of excellence—in fact, they rank No. 4 in the world for management, according to the Center for World University Rankings. Their curiosity leads each of them to explore different areas of interest, but they're all united in the belief that business is a force for good. Within these pages, you'll find the stories of our faculty's curiosities.

Professors Connie Wanberg and John Kammeyer-Mueller studied the potential drawbacks of introversion in the workplace, drawn to the topic by students worried they would struggle against their extraverted peers.

Mindfulness is often pitched as something of a workplace cure-all by modern corporate business leaders. But Professor Kathleen Vohs was skeptical of some of the claims.

And Associate Professor Evan Rawley wanted to test the conventional wisdom that says that when a company is struggling, it should streamline its operations to focus on "core competencies."

I have the immense privilege of sharing research like those above in this issue of *Discovery at Carlson*. You'll also find an introduction to our newest faculty and a Research Briefs section that provides a glimpse into even more work taking place at the Carlson School. As you read through this, if you have any comments on the publication, please feel free to contact me at gupta037@umn.edu.

PROFESSOR ALOK GUPTA
Associate Dean of Faculty and Research
Curtis L. Carlson Chair in Information Management

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GAOQING ZHANG

Assistant Professor • Accounting

Assistant Professor Gaoqing Zhang Reveals Pressure to Manipulate Financial Reports

"Accounting Manipulation, Peer Pressure, and Internal Control"
Gao, P., Zhang, G., *The Accounting Review* (January 2019)

Peer pressure looms large when we're young. It's practically a requirement for every parent to ask their kid, "If all your friends jumped off a bridge, would you jump, too?"

It turns out peer pressure can loom pretty large for grownups, too, and we all might feel its effects whether we know it or not. As Assistant Professor Gaoqing Zhang studies the benefits to regulation of financial reporting, he finds that one firm's practices can have an impact on other firms because of peer pressure.

In other words, if one firm jumps off the "bridge" by manipulating its financial reporting, its peers jump off that bridge and manipulate as well. Regulation such as 2002's Sarbanes-Oxley Act (SOX), Zhang offers, can counter that.

"When firms manipulate more and reduce their financial reporting, they don't just hurt themselves, it puts pressure on other firms to manipulate more and that makes everyone else worse off," he says. "Firms do not think about how they impact other firms."

Stronger internal controls could benefit industry

The findings are part of an overall research thread by Zhang, who is investigating whether a case can be made for regulation that intervenes in a firm's internal control decisions. The wave of accounting fraud in the early 2000s involving WorldCom and Enron led to regulations that exist today. Before that, it was believed that those decisions belonged to the firms—and not to regulators. Many still adhere to that belief.

"Regulators are enforcing the rules, but not without pushback from industry," Zhang says. "We are trying to point out that there is a good benefit from the regulations."

Through modeling, Zhang found that a firm's manager manipulates more if he or she expects that peer firms' reports are more likely to be manipulated. By "manipulation," Zhang doesn't necessarily mean firms are doing things illegally, just finding loopholes that lead to creative accounting and, ultimately, a reduced quality of financial information.

"It's legal, it's allowed, but it's also bad for society as a whole," he says.

"When firms manipulate more and reduce their financial reporting, they don't just hurt themselves, it puts pressure on other firms to manipulate more and that makes everyone else worse off."

The power of peer pressure

Peer pressure can be used for good, however. If one firm reacts to regulations by investing in better internal controls that reduce manipulation, peer firms follow suit by not manipulating without themselves having invested in further internal controls. The impact of regulations on one firm has a trickle effect on its peers, which can benefit the general public.

Zhang's research concentrates on the benefits of regulation, but he understands why there is some pushback and is studying other impacts of it, too. For example, firms have a level of expertise the regulator might not, and that can create complications.

"They might not have the same professional judgment as the insiders, and that can make things worse," he says. "In order to see the full picture of regulation, we have to look at the benefit and the cost, the good side and the bad."

The effect of peer pressure is important, though, and shows the ripple effects of firms doing the right thing.

"Firms will now do the least of regulation that they have to do, this shows the benefits of doing more," Zhang says.

Associate Professor Xiaoji Lin Explains How Wages Impact a Company's Credit Risk

"The Elephant in the Room: The Impact of Labor Obligations on Credit Markets"
Favilukis, J., Lin, X., and Zhao, X., *SSRN* (2019)

Does the amount of revenue that a company spends on employee wages—and the flexibility of adjusting those wages—affect the way credit markets gauge its potential for risk?

A new study conducted by Associate Professor Xiaoji Lin and fellow researchers say that not only is that the case, but that it's as important as "traditional" factors.

"Wages owed to employees are, at the end of the day, a bill that needs to be paid," says Lin. "Because of that, the greater percentage of revenue you owe to them, the riskier lenders view the business."

Wages as leverage

In earlier research, Lin and his team examined the labor market's implications for financial markets in general. But they wanted to specifically look at how labor contracts and rigidity make an impact.

The study included thousands of firms across dozens of countries, including the United States, Canada, major European states, Africa, and the Asia-Pacific region.

What they found was that wage obligations had a first-order effect on credit risk in the form of corporate bond yield or default probability.

"Our view is that wage bills that need to be paid are like leverage," Lin explains. "Think of it like this: If you are obligated to pay employees a specific amount of money because of a labor contract and a recession hits, a company may see a drop in revenue—but the wage payment is a fixed amount. That causes a drop in profits, which increases risk. Perhaps only an interest payment can be made because of a shortage of cash, which further increases risk.

More wages, higher interest rates

Lin explains it like this: Wage bills should be viewed as leverage, because if they have been pre-committed through a labor contract, they cannot be altered if the company runs into financial trouble. So if a recession or other bump in the road hits, a larger portion of revenue will be required to cover wages, which could impact the ability to pay debt. This means creditors want a higher interest rate to go along with the higher risk.

"We basically show that labor wage bills are actually operating leverage that can amplify or make your financial payments, like debt, riskier," says Lin.

Not only do greater wage obligations impact a company's financial risk, but it appears the relationship works the other way as well. A company with high levels of debt is much less likely to increase wages or hire new employees.

> **We basically show that labor wage bills are actually operating leverage that can amplify or make your financial payments, like debt, riskier.**

Reducing resources for innovation

Because of the relationship between wages and credit risk, countries that have stronger labor laws or higher union participation, such as those in Europe, end up being viewed as more financially risky than those with less-stringent standards.

In the long run, the findings indicate that stickier wages can have an impact on innovation.

"A company with higher labor risk is less able to invest in capital projects like new plants or equipment," Lin says. "And while our research didn't look at research and development, we'd likely see the same effect."

XIAOJI LIN

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Professors Connie Wanberg and John Kammeyer-Mueller Extol the Benefits of Extraversion

"Extraversion Advantages at Work: A Quantitative Review and Synthesis of the Meta-Analytic Evidence"
Wilmot, M. P., Wanberg, C. R., Kammeyer-Mueller, J. D., & Ones, D. S., *Journal of Applied Psychology* (2019)

The concept of introverts and extraverts has long been a fascination for researchers and the general public. In recent years, social media and its personality tests, as well as the best-selling book *Quiet: The Power of Introverts in a World That Can't Stop Talking*, further piqued people's interest.

Professor Connie Wanberg knew her students were interested, too. The students worried they might struggle in the work world and that extraverts would have an advantage. So Wanberg teamed with Professor John Kammeyer-Mueller to research that question and give the students some reassurance.

They couldn't.

Using meta-analysis to analyze research

In the most extensive research of its kind, synthesizing more than 2,700 studies with more than 1.1 million participants, Wanberg and Kammeyer-Mueller found that the personality trait of extraversion is a persistent advantage in the workplace.

"It's a small but reliable advantage," Wanberg says. "It's like someone getting a 5-foot head start in a 100-yard race. It's small but it's there."

Contrary to popular belief, extraversion isn't just about sociability and introversion isn't just about wanting to be alone. The researchers found differences in motivation, enthusiasm and assertiveness and those can play out in the workplace.

Advantageous in every setting

"I assumed extraversion was advantageous in some work settings and a disadvantage in others and what we find is even if you're in a place where you'd think introverts would thrive, being an extravert is still to your advantage," Wanberg said.

Particular areas of advantage include performing better in job interviews, being more persistent in a job search, negotiating better, leadership emergence, and leadership effectiveness. Yet even with these results, there are still subtleties at work. For example, extraverts have an advantage in a less structured job interview; the advantage diminishes with an interview that is more standardized among applicants.

"Maybe companies need to do more structured interviews so the extravert advantage isn't overstated," Kammeyer-Mueller says.

"...what we find is even if you're in a place where you'd think introverts would thrive, being an extravert is still to your advantage."

"It's another case where the bias in interviews can be controlled."

All is not lost for the introverts, however. They might consider their motivation levels and what helps them behave in a more extraverted way. If they learn that, they can structure their day around their extraverted times and know when they can recharge.

Behavior, situations matter more

The research also found that situations matter. In a workforce of extraverts, introverted managers outperformed extraverts.

"People who are introverted can be rated as good leaders, we can't misinterpret this finding as saying that everybody who is an effective leader is an extravert," Wanberg says. "It's just that people who are extraverted tend to be rated higher as leaders."

Kammeyer-Mueller readily admits he came into the research with his own bias: He considers himself an introvert, and hoped those pesky extraverts didn't really have an advantage. It turns out they do.

"That's the cool thing about doing research—the results turn out the way they turn out," he says. "Data has a way of proving itself whether you want it to or not."

Professor Kathleen Vohs Explains Why You Should Mind Your Mindfulness

"Mindfulness Meditation Impairs Task Motivation but Not Performance"
Hafenbrack, A., Vohs, K., *Organizational Behavior and Human Decision Processes* (2018)

The modern corporate world is hectic, but business leaders think they've found their cure-all: promoting "mindfulness" through meditation.

Defined as the cultivation of non-judgmental awareness of experience in the present moment, the benefits of mindfulness meditation in the workplace are expounded upon endlessly. Among those benefits are better stress management, improved job satisfaction, and more restful sleep at night.

But research by Professor Kathleen Vohs and her partner finds that while there are certainly benefits, the practice has drawbacks for the workplace, too.

"We found that people who had just done a mindfulness exercise were less motivated to do the task, but performed just fine," Vohs said. "Being in a mindfulness state should have helped performance because it helps the mind focus, but being demotivated washed out that benefit."

> **"We found that people who had just done a mindfulness exercise were less motivated to do the task, but performed just fine."**

Meditation doesn't improve performance

While the advantages of mindfulness have been well documented, its limitations have largely gone unstudied. That presented an opportunity for Professor Vohs and her co-author. They conducted a number of experiments that had subjects meditate to induce mindfulness, complete tasks, and evaluate their levels of motivation and energy.

What they found was that mindfulness did not affect actual task performance, and it provided the benefit of enabling people to detach from stressors, which improved focus.

The benefits, however, were largely canceled out by a reduction in motivation to tackle both mundane and pleasant tasks, a decreased ability to focus on the future, and led to decreased arousal (defined here as physiological and emotional energy that one experiences).

"Using mindfulness to destress at work, to calm your emotions if you think you are getting overheated, or to escape the din of office life (as in offices with open seating) will help people center," she says. "But just don't use it if you need to get amped up to crush it at some task."

Mindfulness still benefits focus, mental health

Despite the drawbacks, Vohs says there's still a place for mindfulness in the office.

"The mental health benefits of mindfulness are clear, and for those reasons it is a good practice," says Vohs. "Our point is a very simple one: Mindfulness isn't a panacea for anything and everything. For instance, I wouldn't do a mindfulness exercise if I wanted to get myself geared up for a jog or doing my taxes."

Perhaps it's not surprising that a practice used by monks for thousands of years to mentally remove themselves from the temporal world isn't fully suited to the corporate office environment. Even Kenneth Folk, a meditation instructor quoted in Voh's research, says "the idea that mindfulness would improve productivity is kind of an odd notion on the face of it."

"Mindfulness's central benefits are to bring about a feeling of calm and a focus on the present moment," Vohs says. "As a motivation scientist, I recognized that those qualities are antithetical to motivation, which requires energy and a focus on the future."

KATHLEEN VOHS

Professor • Marketing • Land O'Lakes Chair in Marketing and Distinguished McKnight University Professor

ALOK GUPTA

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Professor Alok Gupta Helps Define How Much Data Companies Should Review

"Information Transparency in Business-to-Business Auction Markets: The Role of Winner Identity Disclosure"
Lu, Y., Gupta, A., Ketter, W., and van Heck, E., *Management Science* (2019)

Is more information always better? Given that companies and marketers try to collect as much of it as possible, a person might certainly assume so.

But research by Professor Alok Gupta shows that too much information is a disadvantage. How much is optimal has long been a research thread for Gupta, and some of his recent findings changed how the world's largest flower auction house does business.

"More information is not always good," Gupta says. "The level of data has to be decided rather carefully. More isn't always better."

Evaluating auction data in the floral industry

Gupta studied the workings at Royal FloraHolland, a cooperative of buyers, sellers, and auctioneers that trades in 20 million cut flowers a day. Dubbed by *Forbes* magazine as a "Wall Street for Flowers," the century-old auction is a model of efficiency as the delicate, perishable goods must be auctioned early in the day to get shipped quickly to their worldwide destinations. The auctions use a multi-unit, multi-round auction for a given lot of flowers and sell multiple lots during a given day. A bidder can buy part of a lot during a given auction of a lot.

This research is a part of a series of research efforts that "create time" using analytics to auction more flowers in the limited window of time available. Gupta has worked with FloraHolland to make a number of changes based on research studies, including ending a long-held tradition of the auction house: It no longer announces who placed the winning bid during an ongoing auction for a lot. Unlike before, buyers have no idea who has been placing bids to win the auction at any time while it is in progress.

"A lot of the large buyers often don't want other people to know what they are buying, so they were interested in changing this but didn't know what the impact would be," Gupta says.

At the auction, a flurry of activity so interesting and beautiful it even draws tourists, Gupta conducted a field experiment between the traditional policy that disclosed the winners' identities and an alternative policy that concealed the identities.

Concealing identities promotes stable prices

The latter policy resulted in average winning prices increasing by more than 6 percent when identities were hidden from public view. In addition, under the established system prices had a tendency to fluctuate not just day-by-day but over the various auctions throughout the day. With unidentified buyers, prices fluctuated less.

"It shows there is more predictability in a given day," Gupta says. "That was a big positive out of this research. It sort of created a win-win environment that was somewhat unexpected for them."

Two things can explain the difference, Gupta's research showed. One was the possibility of collusion between buyers when they know who is who. The other is bidders trying to mimic what their competition does. Without identifying winning bidders, buyers are using more sound logic and economic factors to make their decisions.

"More information is not always good. The level of data has to be decided rather carefully. More isn't always better."

A lasting impact on business practice

Six months after the research team presented its results to Royal FloraHolland, the auction house announced it would no longer identify who held the winning bid.

Using data to understand the decision-making process has many other potential impacts for the auction house, and Gupta is continuing his research in that direction. The auction houses are catching on, too, he says.

"Auction houses are hiring data analysts within their organizations," he says. "In the last 10 years, we have changed their view on using data for decision-making."

Associate Professor Evan Rawley on the Cost of Streamlining a Business

"The Costs of Refocusing: Evidence From Hedge Fund Closures During the Financial Crisis"
de Figueiredo Jr., R., Feldman, E., Rawley, E., *Strategic Management Journal* (2019)

When a multi-business company underperforms, conventional wisdom says they should streamline operations by reducing the number of businesses they operate and focus on "core competencies." The idea is that streamlining will allow them to become more efficient and, in turn, save money.

But research by Associate Professor Evan Rawley shows that when businesses streamline their operations, they may face both short-term and ongoing costs that could render them less efficient after the fact.

"When a firm is struggling, a manager's first thought is often to outsource and eliminate what is viewed as extraneous so they can focus on what they do best," explains Rawley. "People think that makes sense all the time, but our research shows that just isn't the case."

Pinpointing the costs of closing a line of business

It can be difficult to empirically test the costs of business scope reduction because of selection effects—a business that streamlines its operations is likely doing so because managers decided the benefits outweigh the costs. Teasing out the costs incurred because of reorganization can, therefore, be difficult.

To overcome the empirical challenge of measuring the costs of scope reduction, Rawley and his fellow researchers studied hedge funds that were exogenously driven to close during the Great Recession due to performance shock. What they found was that firms that closed funds not only faced transitory costs (e.g. managerial time diverted to restructuring the organization due to closure) but also persistent "synergy destruction"—when a hedge fund closed, other funds in the firm performed worse. And, funds more closely related to the shuttered unit saw an even larger decrease in performance. While firms typically adapted to the change eventually, those closely related funds experienced a more persistent decline.

"Hedge funds are a simple business," explains Rawley. "And yet, our research revealed costs associated with closing funds. Therefore, we should find stronger effects in contexts where operational complexity is higher."

When refocusing impacts the bottom line

One instance of larger and more complex synergy lost was during the restructuring of General Motors after the company went bankrupt. The U.S. Treasury Department, which invested in GM to prevent its collapse, forced it to sell off its profitable financing wing, General Motors Acceptance Corporation (GMAC, now called Ally Financial).

The idea was to focus GM's operations on its core competency of building automobiles. But GMAC actually played a crucial role at GM: It provided financing to customers in a way that smoothed production cycles, made up for production mistakes, and helped improve efficiency.

The loss of GMAC caused both transitory and synergistic costs. And, to add insult to injury, the company needed to get back into financing by launching GM Financial, which itself added more costs.

"It's actually a huge benefit for GM's production side to have a captive finance company that makes decisions that might be 'bad' financial decisions but are good for the production side of business," says Rawley.

Breaking apart businesses isn't always the answer

So where did the conventional wisdom that "streamlining equals efficiency" come from? Likely a relic of another era, explains Rawley.

Historically, there were many conglomerates around—huge companies that had many unrelated businesses with a corporate office acting as something of an internal capital market. "Those businesses tended to be inefficient, because the allocation of capital within a firm is more bureaucratic than it would be out in the free market."

Today, few conglomerates exist in the U.S.—most were broken up by corporate raiders in the 1980s through leveraged buyouts. "People got the idea that the problem was having a business with too many parts and that getting rid of the parts made a business better off," says Rawley. "But really most businesses that are diversified are not conglomerates with unrelated businesses stuck together; instead, they're businesses where the scope of the firm has expanded a little bit over time in a pretty sensible way."

While conglomerates' inefficiencies made them ripe for breaking apart, there's no one-size-fits-all answer for today's multi-business companies. Closing or spinning off part of the organization might make sense, but this research shows that the costs are real—and often persistent.

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RACHNA SHAH
Associate Professor • Supply Chain and Operations

Carlson School's Supply Chain Department on Decision-Making that Improves Organizational Performance

"Product Recall Decisions in Medical Device Supply Chains: A Big Data Analytic Approach to Evaluating Judgment Bias"
Mukherjee, U. and Sinha, K., *Production and Operations Management* (2018)

"The Decision to Recall: A Behavioral Investigation in the Medical Device Industry"
Ball, G., Shah, R., and Donohue, K., *Journal of Operations Management* (2018)

"Experience Breadth and Problem-Solving in Crowdsourcing Contests: An Empirical Investigation"
Mishra, A., *Manufacturing & Service Operations Management* (2019)

At the heart of behavioral operations is understanding the interaction of human behaviors and operations systems and processes.

Recently published Carlson School research on behavioral operations looks closer at how recalls were done in the medical industry and whether the performance of contestants participating in innovation contests improved the more times they participated. Examining these issues is important because as a discipline, supply chain and operations management must be committed to improving operational decision-making related to processes, technologies, and people, both within organizations and across organizational and country boundaries, in order to enhance the performance of organizations and the supply chains they're a part of.

"A common assumption underlying operational decision-making is that individuals and organizations making decisions are rational, and strive to be optimal in their process of decision-making," says Professor Kingshuk Sinha. "This is a questionable assumption. Often, individuals and organizations are irrational, and do not strive for optimality in their process of decision-making."

Medical device recall decision-making

One of the ways in which this was explored was through research conducted by Associate Professor Rachna Shah and Professor Karen Donohue. Their recent publication, "The Decision to Recall: A Behavioral Investigation in the Medical Device Industry," examines what influences the decision to recall a medical device.

For many managers, recalling a product can be one of the most important decisions they make in their careers. And yet, the FDA does not clearly specify how a manager should integrate the multiple—and potentially conflicting—criteria influencing this decision within the medical device industry. This leaves managers within this industry drawing more on individual judgment to arrive at their recall decision, making it an important industry to study from a behavioral perspective.

As Donohue explains, "our research team developed an experiment where actual managers within the medical device industry were given different product scenarios to evaluate and determine whether a recall was warranted. Findings from the experiment revealed that managers are often influenced by information that is not really pertinent to evaluating whether or not the product is defective."

One of the interesting results was that managers appear to hesitate to recall a product until the cause of the potential defect is clearly understood, even though such delay could increase patient risk. Managers were also more reluctant to recall a potentially defective product if the defect could be observed by a physician before being used by a patient.

"When a product defect is detectable, managers are less likely to recall the product," says Shah. "Instead, they rely on the physician-customer as the 'final quality inspector' to screen out defects and catch the mistake before it could harm the patient."

"The extent of these behavioral tendencies was surprising to our industry partners and pushed them to think through ways to counter-act this behavior in the future," says Donohue.

Research conducted by Sinha also explored a complementary set of issues in his paper "Product Recall Decisions in Medical Device Supply Chains: A Big Data Analytic Approach to Evaluating Judgment Bias."

In his research, Sinha used machine learning methods to analyze over three million data points on 1,348 devices, across 108 firms over a 10-year period. He found that when it was difficult to assess the severity of an issue—there was a high noise-to-signal ratio—it tended to cloud the judgment of the manager leading to an under-reaction. When a product recall seemed severe, there tended to be an over-reaction biased because managers became more risk averse.

"What is particularly noteworthy with medical device recalls that receive widespread media attention is that the recall decisions could have been made sooner," says Sinha. "There is also anecdotal evidence of medical device recalls made by firms that indicate that recalls were knee-jerk decisions, made too quickly and not necessary. In other words, recall decisions are often fraught with human judgment biases of under-reaction or over-reaction. We identify conditions related to the situated context of managers that are associated with an under-reaction or over-reaction likelihood."

This study is consequential for firms and government regulatory agencies, as it sheds light on how recall decisions can be made correctly and in a timely manner, says Sinha.

"Given the behavioral nuances of medical device recall decisions, and that recalls are disruptive and exemplify among the most consequential downside risks in managing healthcare supply chain and operations, make studies on recalls a compelling and impactful line of inquiry in behavioral operations," he says.

Upstream and downstream experience in innovation contests

Associate Professor Anant Mishra also worked on key research at the intersection of behavioral operations and innovation management with his paper "Beyond Related Experience: Upstream vs. Downstream in Innovation Contest Platforms with Interdependent Problem Domains."

The paper examines how individuals accumulate experience on innovation contest platforms. On such platforms, complex problems are typically broken down into smaller problems that are attempted by multiple individuals.

Mishra analyzed data obtained from TopCoder, a leading platform for software development contests, from its launch in 2001 to September 2013.

Through reviewing this data, he found that it highlighted the importance of diverse experiences for participants on innovation platforms, which is contrary to the notion of "hyper-specialization" on online platforms that has been emphasized in previous research.

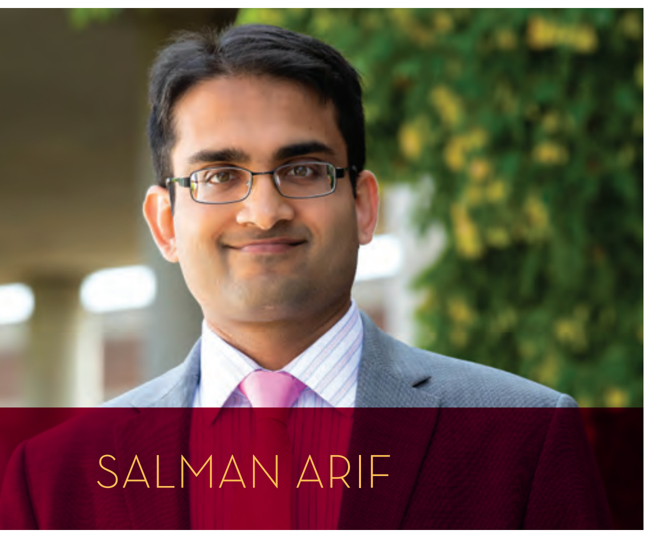
"By participating regularly, individuals are sharpening their skills," Mishra says. "That being said, beyond their inherent creativity and problem solving abilities, individuals who participate regularly in contests on a particular platform also develop a better understanding of how solutions are judged, who they are likely to compete against, and what contests they should select to participate on the platform."

Another key finding is that although contestants who participated on contests on the same platform learn from their prior experience and perform better, the benefits of such experience arise only when it is in problem domains that are downstream and related to the current problem.

The research bridges a gap in previous studies on innovation contests, which have focused on individual problem solving in a specific problem domain without considering how individuals accumulate experience across various probelm domains on innovation contest platforms.

New Faculty

Necati Ertekin joined the Carlson School of Management as an assistant professor in the Department of Supply Chain and Operations Management. Most recently, he worked as an assistant professor at the Santa Clara University Leavey School of Business. He earned his PhD in Operations and Supply Chain Management in 2016 from Texas A&M University.
Ertekin has published in top-tier journals such as *Manufacturing & Service Operations Management*, *Marketing Science and Production* and *Operations Management*. His primary research interests center on retail operations, operations/marketing interface, and data analytics with large-scale datasets.



Salman Arif has joined the Carlson School as an assistant professor in the Department of Accounting. Previously, he was an assistant professor at Indiana University's Kelley School of Business and a visiting assistant professor at the University of Pennsylvania's Wharton School. He earned a BA in Mathematics from Cornell University and a PhD from the Stanford Graduate School of Business. Prior to his academic career he traded exotic credit and equity derivatives at JP Morgan and worked on the panoramic camera system launched aboard the 2003 NASA Mars Exploration Rover mission.

He has received awards for his scholarly work and is the recipient of the Indiana University Trustee Teaching Award. His research has been published in top-tier academic journals including the *Journal of Accounting and Economics* and *The Review of Financial Studies*. His areas of expertise include capital markets, the timing of disclosure, accruals, corporate investment, options, and investor behavior.

Mochen Yang has joined the Carlson School as an assistant professor in the Department of Information and Decision Sciences. Previously, Yang worked as an assistant professor in the Department of Operations and Decision Technologies at Indiana University's Kelley School of Business. He earned his PhD at the Carlson School of Management, and his bachelor's degree in Information Systems Management from the School of Economics and Management at Tsinghua University.

Yang's research focuses on designing and evaluating strategies to facilitate decision-making in complex decision environments, leveraging insights and methods from machine learning and data analytics. He has published in top-tier journals including *MIS Quarterly* and *Information Systems Research*.

Research Briefs

Marketing

Linli Xu

Word of Mouth and Advertising: Do Brands Get What They Pay For?

Recent research suggests that there is value, but it is fleeting. In *Quantitative Marketing and Economics*, authors Mitchell J. Lovett, Renana Peres, and Carlson School Assistant Professor Linli Xu examine this topic in their paper "Can Your Advertising Really Buy Earned Impressions? The Effect of Brand Advertising on Word of Mouth."

The team focused on the relationship between monthly internet and TV advertising expenditures and word-of-mouth (WOM) conversations for 538 U.S. national brands across 16 categories over the course of 6.5 years.

Overall the influence of paid advertising on word-of-mouth is small, however, certain advertising events produce a larger, longer-lasting event. For example, the team used a synthetic control approach for the Super Bowl, and identified a moderate increase in total WOM that lasts one month. The effect of online WOM is larger, but lasts for only three days.

How to Find Enduring Happiness with a Purchase

When we buy something, we expect it to make us happy. The amount of emotional lift we get from a particular product, however, depends on how we specifically formulate our happiness goals.

Rohini Ahluwalia, Curtis L. Carlson Trust Professor of Marketing, and PhD students Maria Rodas Waters and Nicholas Olson published research in the *Journal of Consumer Psychology* that explores the idea that a general, rather than specific, goal is most likely to lead to enduring happiness.

Based on findings from a lab experiment and a longitudinal study, the team found that general happiness goals (e.g., feel good, be happy) versus more specific ones (e.g., excitement, relaxation) expand the breadth of emotions experienced from consumption activities, and thereby increase the top-of-mind awareness of the experience or product over time. This enables people to derive longer-lasting happiness from purchases made with a general goal.

Customer Service is Frustrating by Design

Why does speaking to a customer service representative on the phone feel like such a hassle? Because it's profitable to firms.

According to recently published research in *Marketing Science* from Anthony Dukes and Yi Zhu, associate professor of marketing at the Carlson School, many customer service organizations operate on a tiered organizational structure, which impose "hassle costs" for customers who attempt to escalate their complaints.

What is a hassle cost, exactly? It's just like it sounds—dissatisfied customers must face extra hassles in order to get their customer service complaints addressed. This tiered structure makes it harder for consumers to escalate their claims, which helps firms control their redress costs. Companies that build such tiered organizational structures can be more profitable. This research may help us understand why some of the most hated companies in America are so profitable and why customer service, unfortunately, remains so frustrating.

Yi Zhu

Research Briefs

Work and Organizations

Why Good Looking People Make More Money

Academic research has established a connection between physical attractiveness and career advancement—but why?

Researchers Karyn Dossinger, Carlson School Professor and Industrial Relations Faculty Excellence Chair Connie Wanberg, Yongjun Choi, and Lisa M. Leslie explore the mitigating factors that can affect career advancement in their paper "The Beauty Premium: The Role of Organizational Sponsorship in the Relationship Between Physical Attractiveness and Early Career Salaries," published in the *Journal of Vocational Behavior*.

The researchers followed 203 recent university graduates who were employed full-time, and discovered that they received higher career exposure and visibility from the start of their careers, which mediated the relationship between physical attractiveness and salary.

How Biases Affect Retirement Savings

We all know that we need to save for retirement—but how do our biases about finances affect the amount that we save?

Published in *Economic Inquiry*, research from Gopi Shah Goda, Matthew Levy, Carlson School Associate Professor Colleen Flaherty Manchester, Carlson School Associate Professor Aaron J. Sojourner, and Joshua Tasoff works to determine how people's biases about savings affect their nest egg.

The team focused on two biases in particular: exponential growth bias, which causes people to underestimate both the returns on savings and the cost of holding debt, leading them to over-borrow and under-save; and present bias, which causes people to procrastinate working towards their savings goals.

If eliminated, these biases would increase people's savings at retirement by approximately 12 percent.

Colleen Flaherty Manchester

Defining 'Cooperation' in Organizations

Many companies strive for cooperation with their employees, but the meaning of cooperation in the workplace remains elusive.

In their article "The Many Meanings of Cooperation in the Employment Relationship and Their Implications" forthcoming in the *British Journal of Industrial Relations*, researchers Mark Bray, Carlson School Professor and Industrial Relations Land Grant Chair John W. Budd, and Johanna Macneil try to bring clarity to the definition of cooperation in the workplace to advance both academic discourse and organizational adoption.

The team defined a framework that outlines six key perspectives on cooperation rooted in five assumptions; and then evaluated the manifestations of these perspectives in the workplace and the amount of cooperation that they functionally support.

Pri Shah

The Benefits of Staying Connected to a Team

Good teams are the building blocks of good professional networks, according to recent research from Mary Maloney, Carlson School Professor Pri Shah, Carlson School Professor Mary Zellmer-Bruhn, and Stephen Jones.

Published in *Organizational Science*, their research introduces the concept of "tie vitality," which looks at the strength of team member connections after a team disbands as a way to gauge team effectiveness.

The authors found that the higher the relational capital of the team—marked by trust, identification, and mutual obligations—the longer the members of the team remain connected as part of a supportive professional network after the team disbands. In addition, if the team members uniformly sought out and gave each other advice while they were teammates, the bonds are strengthened even more.


Aseem Kaul

Strategic Management and Entrepreneurship

How Diversification Affects Adaptation

When making the decision to diversify, stakeholders need to consider a new potential consequence to their reorganization: Diversification has the potential to negatively affect adaptability, according to new research forthcoming from *Strategic Management Journal*.

Researchers Mo Chen, Carlson School Associate Professor Aseem Kaul, and Brian Wu studied the effect of coordination between businesses on the adaptation of diversified firms. They discovered that when firms diversified into businesses with moderate levels of relatedness they had the most difficulty adapting their businesses to market forces.

To mitigate this effect, the researchers suggest that firms limit coordination between businesses to a few key activities—if they diversify at all. Their losses in short run synergies will pay off in long-term flexibility.

What Big Firms Can Learn from Newer, Smaller Firms

When a large firm is challenged by a smaller firm entering its market, the market leader has two choices: destroy the smaller firm, or learn from it. Recent research suggests that the latter is preferable, but how do smaller firms react to advances from larger firms who want to learn from them?

Mo Chen, Carlson School Associate Professor Aseem Kaul, and Brian Wu study the reaction of smaller firms to these advances in their research published in *Organizational Science*.

The team found that if the smaller firm feels threatened by the larger firm's efforts to learn from it, any additional advances will only serve to drive the smaller firm away faster.

Research Briefs

Strategic Management and Entrepreneurship

How Race and Class Affect Social Entrepreneurship

Why do different communities have different levels of social entrepreneurship? And why do some social problems gain traction as ripe for venture-based solutions, while others go unaddressed?

In his paper "Seeing Parochially and Acting Locally: Social Exposure, Problem Identification, and Social Entrepreneurship," Assistant Professor Sunasir Dutta examines how it's not the aggregate levels of need, but their distribution across neighborhoods that determine rates of social entrepreneurship in geographic communities.

Dutta discovered that communities with more even distribution of social problems across the local environment generated more social ventures. He explored this in the context of local social entrepreneurship in healthcare. Yet even among such communities, those with high levels of segregation based on race and income had more difficulty garnering advocacy and support.

How Building Bridges Stimulates Entrepreneurship

Recent award-winning research from Assistant Professor Sunasir Dutta looks at how building new bridges in a community stimulates the social connections necessary for new ventures.

In the working paper "Why Physical Connectivity Still Matters: New Bridges and Entrepreneurship in Geographic Communities," Dutta and his co-authors—Daniel Erian Armanios from the Department of Engineering and Public Policy at Carnegie Mellon and Jaison Desai from the U.S. Army Cyber Command—examine how the construction of new bridges results in the founding of new organizations.

In fact, the authors found that the more segregated neighborhoods are, the more the new bridges stimulate business growth in the area.

Sunasir Dutta

Information and Decision Sciences

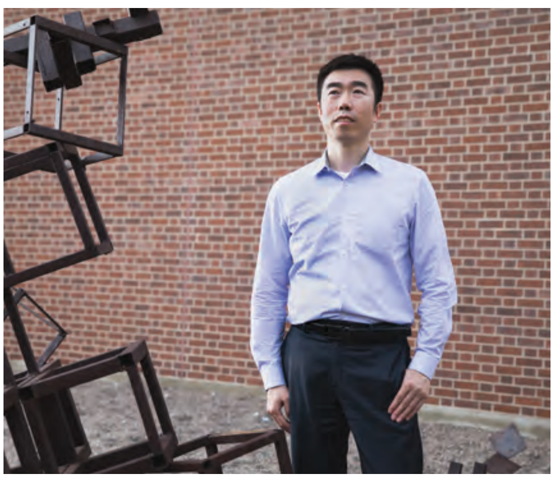
How Do Young Firms Grow their Online Brand Communities?

It is well accepted that online communities are valuable to firms, but how do young firms—those that have not yet developed brand recognition and status—grow such communities?

New research published in *MIS Quarterly* by Carlson Professors Sofia Bapna and Mary Benner, and co-author Liangfei Qiu finds that publishing company content that signals credibility, seeks the opinions of the community, or that offers promotions results in more engagement in the company's online community.

Further, when individuals engage with company content (e.g. when a community member "likes" a company's post), information regarding that interaction and the post's content is diffused to others who aren't part of the company's online community, which encourages them to join.

Sofia Bapna



De Liu

A New Auction Design that Preserves the Privacy of Participants

Auctions have been widely used for selling properties, goods, and resources, but participation in auctions is often hindered by bidders' reluctance to reveal their private valuations to auctioneers, competitors, and third parties.

Carlson School Associate Professor and 3M Fellow in Business Analytics De Liu and his co-author Adib Bagh introduce a new ascending auction algorithm that addresses these concerns in their paper "New Privacy-Preserving Ascending Auction for Assignment Problems," accepted for publication in *Management Science*.

The new auction model uses a novel price adjustment process to reduce unnecessary disclosure of private information, thereby offering better privacy protection to auction participants. The paper also proposes a way of measuring privacy preservation in different auctions.

Do People Assimilate or Differentiate When They Create Content?

The diversity of opinions on social media and user-generated content platforms has never been more critical as we rely more on such platforms for information. A key issue in content diversity is how contributors choose between assimilation with and differentiation from existing content.

Curtis L. Carlson Chair in Information Management and Associate Dean of Faculty and Research Alok Gupta and Associate Professor De Liu, together with co-authors Zhihong Ke and Daniel Brass, address the above issue in their paper "Assimilate or Differentiate? Contributors' Choice of Subjects in User-Generated Content," accepted for publication in *Decision Sciences*.

The team finds that people like to contribute to subjects with less existing content, which would be considered a differentiation strategy; but everything else being equal, they prefer to contribute to subjects where their online friends have contributed, which would be considered an assimilation strategy.

Alok Gupta

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